

DP6 RESET

WARRANTY

Should defective material and/or workmanship used in manufacture give rise to failure, the products themselves or the components and sub-assemblies affected, will be replaced or repaired free of charge during the first 12 months. The fitting of non **Dowdeswell** parts, or repairs, or modifications carried out by unauthorized persons may invalidate the warranty. No major work to be undertaken without prior consultation with Dowdeswell Engineering Co. Ltd.

Save to the extent covered by the warranty, the company shall not be liable in any circumstances for any loss, injury or expense, whether direct or indirect, which may arise for any reason whatsoever from any defect in or otherwise in connection with any goods supplied or work done by the company.

INTRODUCTION

Introduction to the Manual

The provision of this information is a requirement of the Supply of Machinery (Safety) Regulations 1992. In accordance with the above act the equivalent continuous A - weighted sound pressure level at the driver's seat does not exceed 70dB (A).

This manual has been written and provided to enable users of **Dowdeswell** products to:

1. Understand how the machine operates.
2. Be able to operate the machine safely and without hazard to either the operator or persons in the vicinity.
3. Be able to use the machine to its full potential.

The operator must read all of the manual and fully understand its contents before attempting to operate, adjust or service the machine.

The contents of this manual are intended as a guide to the operation and servicing of the machine. It is not a training manual.

Only genuine **Dowdeswell** spares should be used when replacing worn or damaged parts, these are available from your dealer.

!WARNING! *This symbol indicates important safety messages within this manual. When you see this symbol be alert to the possibility of injury to yourself or to others and carefully read the message that follows.*

Whilst all care and attention has been taken in the design and production of all **Dowdeswell** products, as with all machinery there remains a certain amount of risk to personnel whilst the machine is in use.

It is strongly recommended that the user and operators take all possible precautions to ensure both their own safety and that of others that may be in the vicinity.

!WARNING! *The area around the machine should be kept clear at all times.*

DEFINITION OF FRONT, REAR, LEFT AND RIGHT

Throughout this manual the terms 'Front', 'Rear', 'Left hand' (L.H.) and 'Right hand' (R.H.) are derived from the tractor drivers normal position facing forwards.

The left hand components are those which move the soil to the left and the right hand components are those which move the soil to the right.

REPLACEMENT PARTS

Use only genuine **Dowdeswell** spares as these replacement parts are designed for you machine to give the best possible performance and also have the full backing of the warranty. See the parts section at the rear of this manual for the required description and part number when ordering.

SAFETY PRECAUTIONS

SAFETY

Dowdeswell ploughs have been designed and constructed to comply with current safety regulations. However, as with all machinery there are inherent dangers whilst operating and carrying out maintenance on the machine. The following list of items should therefore be brought to the attention of the persons operating or working on the machine and should be complied with at all times.

Before Use

!WARNING!

1. Read and familiarise yourself with the operator's instruction manual for this machine and the tractor before use.
2. Consult the tractor manufacturer's manual for instructions on mounting implements and safe working methods.
3. Ensure the work area is clear of bystanders.
4. Ensure all guards, covers, warning labels and safety devices are in position and operative.
5. Inspect the work area for obstructions that may constitute a hazard.
6. Ensure that the tractor is of a suitable size to lift the machine safely. This may require the fitting of front weights to counterbalance the machine when in the raised position.

During Use

!WARNING!

1. Observe all safe working procedures such as reducing speed on slopes and sharp turns. The rear of the machine can travel very quickly and sweep a wide arc.
2. Avoid working on ground where there is a risk of overturning.
3. Do not cut across the face of slopes.
4. Avoid inhalation of dust and fumes generated by the machine.
5. Be alert for hidden obstructions. Should the machine hit an obstruction, stop and check for damage before proceeding.
6. Observe all relevant regulations whilst on a public highway.

After Use

!WARNING!

1. Inspect the machine for damage and replace parts as necessary.
2. Check that all bolts, nuts and screws are tight.
3. Carry out lubrication and maintenance as detailed to maintain the machine in a safe working condition.

Always

!WARNING!

1. Wear safety footwear.
2. Avoid loose clothing that may be caught in moving parts.
3. Take care when working on the implement as there are many sharp protruding components that can cause serious injury.
4. Lower the machine gently onto the ground.

Never

!WARNING!

1. Carry out adjustments unless the tractor engine is stopped and the machine is firmly supported or lowered to the ground.
2. Leave the tractor unattended unless the machine is lowered, the engine stopped, the parking brake applied, the gear shift lever in neutral and the ignition key removed.
3. Allow children or untrained persons to operate the machine.
4. Operate the machine with persons on or near it.
5. Touch any moving parts or parts that may be hot from operation.
6. Use the machine for purposes other than what it was originally designed for.
7. Stand on the machine to carry out adjustments or maintenance.

REMEMBER

SAFETY IS THE RESPONSIBILITY OF THE PERSONS WORKING WITH
THIS MACHINE.

THINK '*SAFETY*' AT ALL TIMES.

READ AND REMEMBER THE CONTENTS OF THIS MANUAL.

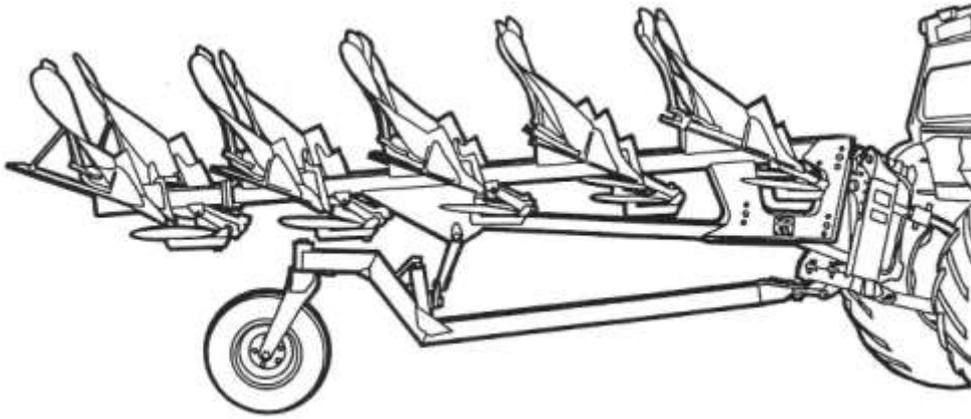


Figure 1

HITCHING - UP

When hitching the plough to the tractor:-

- 1) Check that both the linkage lift rods are the same length.
- 2) Connect the lower links, selecting either the inner Category 2 position or the outer Category 3 position.
- 3) Fit the required hydraulic adaptors to hoses '4' (Fig. 2) and connect them to a double acting auxiliary service of 2500 p.s.i. for operating the turnover.

If the plough is fitted with hydraulic wheel connect the hoses from this to a second double acting service.

When the plough has been fitted:-

- 1) Check that there is sufficient slack in the tractor check chains to allow the plough to swing a little.

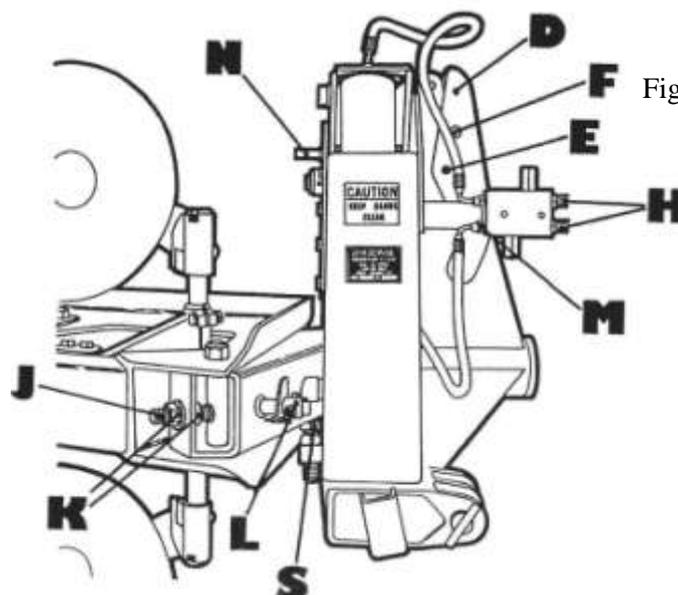


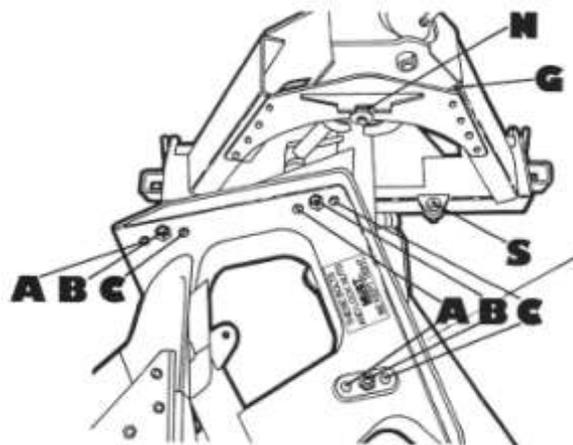
Figure 2

TURNOVER

Lift the linkage and start the turnover sequence by operating the spool valve to contract the ram. Spectators should be kept well clear as there can be air in the system initially which will cause the movement to be quite rapid. The plough will rise up into the transport position as in Fig. 1 where it will automatically lock as latch 'L' (Fig. 2) drops into notch 'N' (Figures 2 and 3). The spool valve should now be released.

To put the plough down on the opposite side operate the valve to extend the ram. Hold the valve open until the beam has seated on stop 'S' (Figures 2 and 3) and a gap has appeared at 'G' (Fig. 3). The turnover is now locked.

N.B. It is recommended that the tractor rear wheels be ballasted or weighted to prevent them from lifting as the plough turns over. If the hydraulic system locks up and fails to turn the plough, check that the quick release couplings to the tractor are engaged properly. If these are correct check the restricted adaptor at 'M' (Fig. 2) for a blockage.



TRANSPORT

Operate the turnover as described until the beam is mechanically locked in the transport position as Fig. 1.

N.B. Great care should be taken when turning as the plough wheel is fully castoring so the rear of the plough will travel very quickly.

WIDTH ADJUSTMENT

Three positions are available for coarse adjustment of the plough offset to suit a range of tractor wheel settings (Fig. 3). Plough leave the factory set in central holes 'B'.

The between tyre settings for the three hole positions for ploughs of different numbers of furrows are as follow:-

	'A'	'B'	'C'
4 furrow basic beam	54"	58"	62"
5 or 6 furrow basic beam	58"	62"	66"

Fine width adjustments to correct the front furrow width is made by slackening the three pulling pins 'B' (Fig. 3) and moving nuts 'K' (Fig. 3) in the required direction.

To narrow the front furrow screw them towards the tube end of the threaded pin 'J' (Fig. 2) and to widen it, screw them towards the free end of the threaded pin. When the setting is correct, tighten all nuts thoroughly.

VERTICALITY STOPS ('S' Figures 2 and 3)

These are provided to set the plough legs upright when the tractor wheel is in the furrow. There is a stop each side so left and right hand work can be adjusted individually.

If the plough is leaning towards the ploughed land raise the stop, if towards the unploughed land lower the stop. Always tighten the lock nut after making any adjustment.

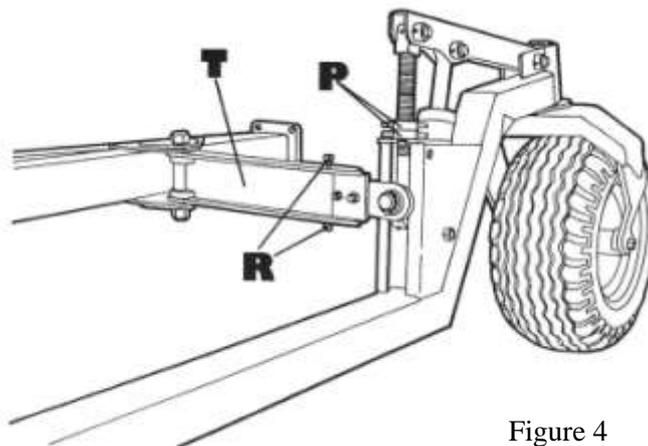
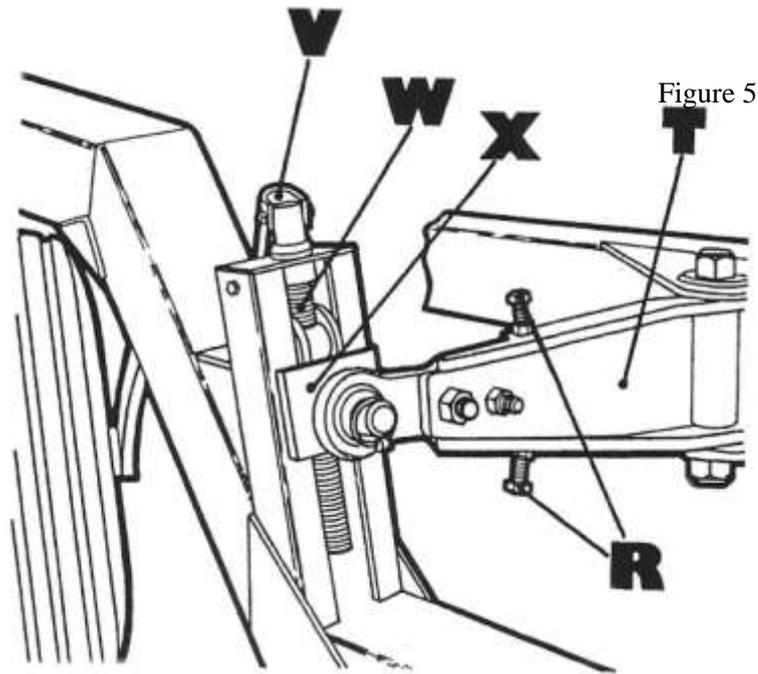


Figure 4



DEPTH CONTROL

The depth of the front of the plough is controlled by the tractor hydraulics. The rear is controlled by the plough wheel which is either hydraulic as in Fig. 4 or manual as in Fig. 5.

If the wheel is hydraulic the depth can be pre-set with lock-nuts 'P' (Fig.4) and the hydraulics can then be used to raise the rear of the plough during work if necessary.

If the wheel is manual the depth is adjusted by turning handle 'V' (Fig. 5). Always leave this handle folded down else damage will occur when the plough turnover. If conditions are very wet and the plough cannot be set shallow enough due to the wheel sinking in an extra range of adjustment in the depth screw 'W' (Fig. 5) can be obtained by removing the handle assembly from the slide and turning component 'X' upside down.

If there is a difference between the depth of left and right hand work it is possible to adjust the wheel arm 'T' (Fig. 4 and 5) with setscrews 'R'. This applies to both manual and hydraulic wheels.

When the depth is set about right the top link can be fitted, if required, to hole 'F' (Fig. 2). Always ensure that the pin is removed from hole 'E' as this would make the plough fully mounted. Adjust the length of the top link so that the clapper 'D' is just touching the front of the headstock. This prevents the front of the plough from diving when used on tractors with bottom link easing.

TURNING AT THE HEADLAND

The recommended technique for turning on the headland with the DP6 is to lift the front of the plough while still moving forward and begin turning down the headland towards the ploughed land, starting to turn the plough over at the same time by contracting the ram. The plough will automatically lock in the transport position as previously described.

The outfit should then be reversed along the headland towards the unploughed land until the front of the tractor has passed the end of the furrow. Drive forwards to enter the furrow at a slight angle about 3 feet from the end. As the tractors front wheels approach the furrow lower the hydraulics then operate the turnover to expand the ram until a gap appears at '6' (Fig. 3) as previously described. The plough will complete the turnover entering the ground in one smooth action.

Do's and Don'ts

- 1) Keep all nuts and bolts tight.
- 2) Never operate the turnover with persons on or near the plough.
- 3) Always use genuine **Dowdeswell** shear bolts or damage will occur to holes.
- 4) When transporting on the road, drive at moderate speeds.
- 5) Grease all nipples at regular intervals.
- 6) Ensure turnover latch 'L' (Fig. 2) is engaged in notch 'N' (Fig. 2 and 3) before disconnecting hydraulic hoses.
- 7) When the plough is lifted onto its stands ensure the ground is firm and level.

HYDRAULIC AUTO-RESET

Assembly of Leg Bracket (Fig. 1)

- 1) Connect ram assembly 'R' to the beam with pin 'P'.
- 2) Connect the hydraulic hose and set the pressure at 1100 p.s.i.
(See separate section for setting pressures)
- 3) Slide nut 'N' onto Tee bar 'T' and inset through leg bracket 'L' from the rear.
- 4) Screw Tee bar into end of ram assembly 'R'.
- 5) Slide leg bracket over ram assembly until nut can be started on ram thread.
- 6) Remove tee bar and tighten nut until balls 'M' are all sitting firmly in cups 'C'.
- 7) Release hydraulic pressure and tighten nut 'N' a further 2 full turns to pre-load the ram.
- 8) Reset the hydraulic pressure to 1100 p.s.i.

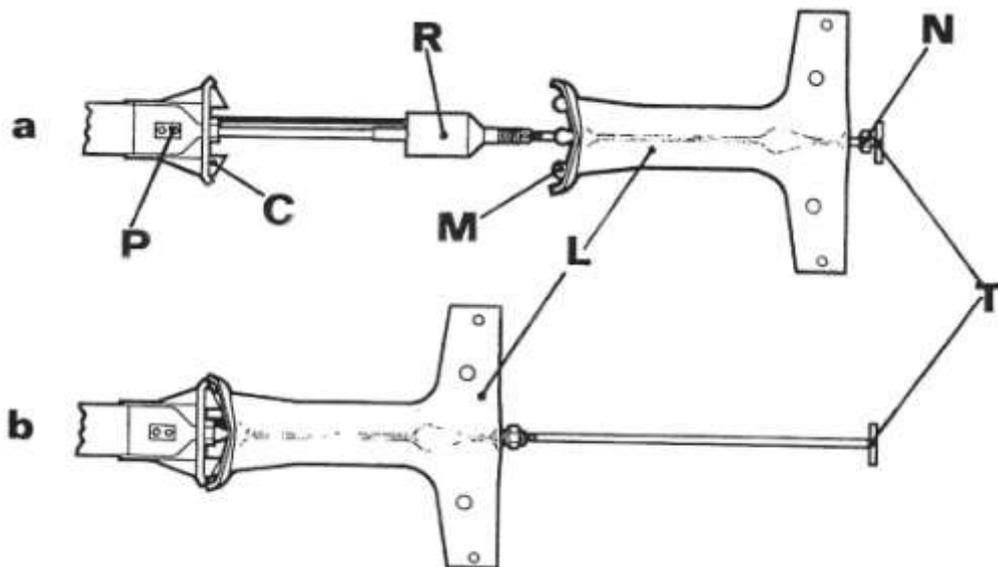


Figure 1

Dismantling Of Leg Bracket

- 1) Connect hydraulics hose 'H' (Fig. 3) to the tractor and release the pressure.
- 2) Remove nut 'N' (Fig. 1).
- 3) Slide leg bracket 'L' rearwards off the ram assembly. (Tee bar 'T' is not required for dismantling the leg bracket).

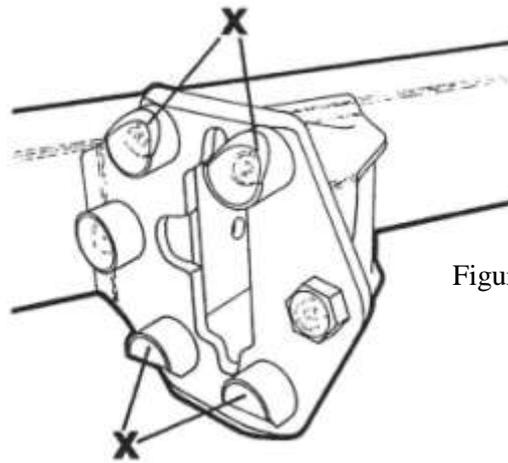


Figure 2

Cups (Fig. 2)

It is essential that the three different types of cup are positioned correctly as shown in Fig. 2. Always ensure that the nuts are kept tight and that beveled cups 'X' do not turn from the positions shown or damage will occur.

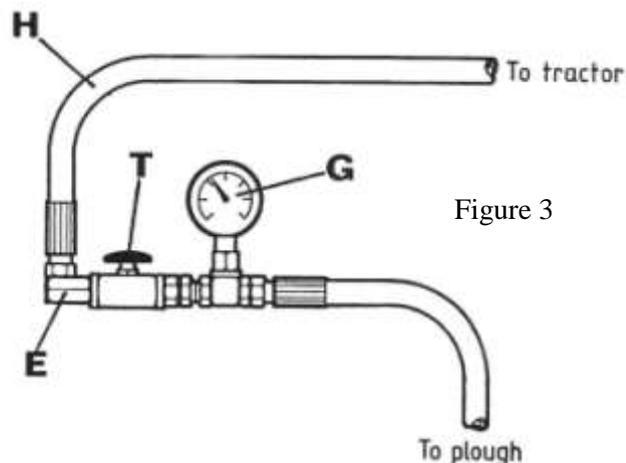
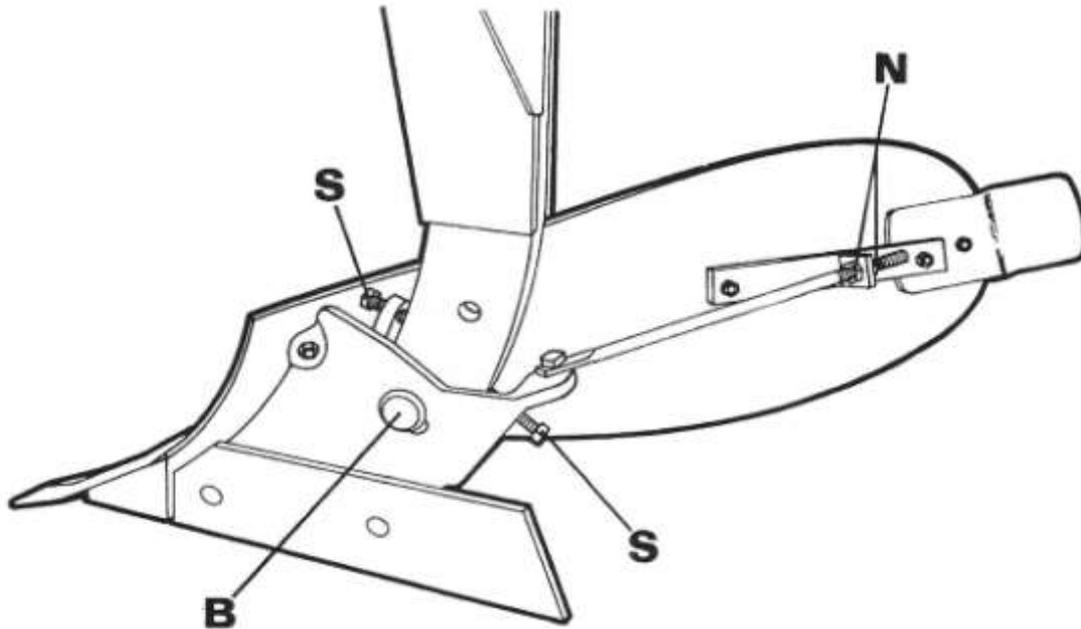


Figure 3

Setting Of Hydraulic Pressure (Fig. 3)

- 1) Check that tap 'T' is closed and attach the supplied hydraulic hose 'H' to elbow 'E'.
- 2) Fit the required adaptor and attach the free end of the hose to the tractor hydraulics.
- 3) Open tap 'T' and operate the tractor hydraulics until the pressure reads 1100 p.s.i. on gauge 'G'.
- 4) Close tap 'T' and disconnect hose 'H'.
- 5) To release pressure, connect the hose, undo the tap and operate the hydraulics to allow oil to return to the tractor.

BODIES



Pitch Adjustment

The pitch of the bodies is adjusted by slackening the nut on the mushroom-headed bolt 'B', turning setscrews 'S' in the required direction and re-tightening the nut.

Ensure that the pitch is equal on all bodies by measuring the underbeam clearance to the points

Mouldboard Stays

Adjustment is carried out simply by the movement of nuts 'N'. To get all the bodies the same, set a pair of right and left hand bodies at the same angle by measuring from the tip of the mouldboard to the shear bolt of the next leg back on the plough. Now set the remaining mouldboards on each side so there is an equal clearance between the end of each one (equal to the point to point clearance).

SKIMS & DISCS

Figure 9

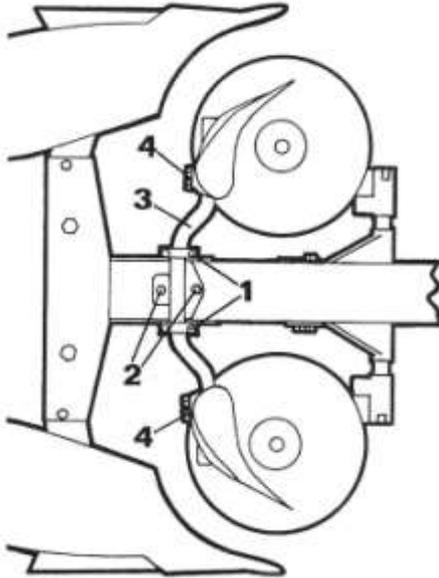
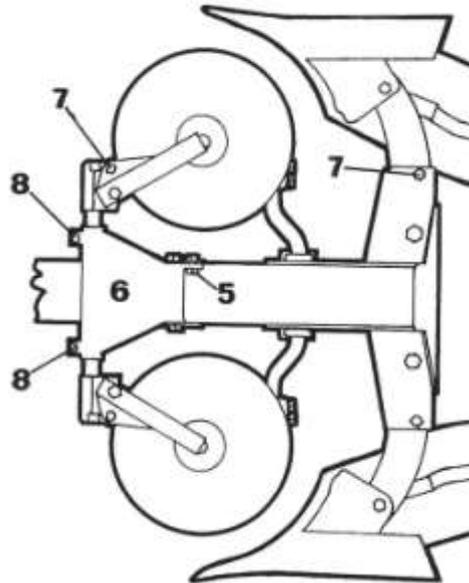


Figure 10



Disc adjustment is best carried out with the skim assemblies removed, this is done by slackening nuts '1' (Fig. 9) and unhooking the 'U' bolts. The discs are mounted in pairs on bracket '6' (Fig. 10) and the width of cut is adjusted by slackening the bolt '5' (Fig. 10) and swinging the bracket to give the correct disc position. Once the width of cut is correct the bolts must be well tightened.

This adjustment sets both left and right hand discs. The disc depth adjustment is set individually by sliding the disc shank into bracket '6' (Fig. 10) and clamping them with nut and bolt '8'. The skims should be set up with the plough in the ground as this guarantees that the disc is in its correct working position. The position of both left and right hand skims are set at the same time by twisting shank '3' (Fig. 9). This is done by screwing the studs '2' (Fig. 9) in the appropriate direction. The skims should be set so that the point is just clear of the disc but the rest of the skim should be clear of the disc to stop trash building up between the skim blade and the disc. The depth and angle of the skim itself is controlled by setting its position on shank '3' (Fig. 9) and locking with studs '4'. Do not over tighten stud '4'.

There are two positions for the skim assembly on the beam, chose which position gives the best results in the field, the main advantage of the rear position is that it increases the clearance between the skim and the leg in front, which is a big advantage when ploughing in straw and other trash.

Bolts shown '7' (Fig. 10) are shearbolts and are there to protect the plough frame, disc assemblies and bodies. These must always be replaced with genuine shearbolts as ordinary bolts will damage the hoels and will not shear at the correct loading.